

# Missing Nut D

By AE1(AW) Brian Roberts

It was a warm April day, and the ship was pier-side in Dubai, United Arab Emirates. I was the detachment's LPO and the duty-section leader for the day. We didn't have any major maintenance requirements, so it was a perfect chance to troubleshoot outstanding gripes—maybe too good a chance.

After duty-section muster, I scrubbed the workload report and passed out assignments. We started on our various tasks. One of the outstanding gripes was a blade-fold problem on one of our two helicopters. Since I was the only electrician on duty, I began to troubleshoot the problem. As I was working on the yellow blade-fold harness, I dropped a nut. Looking back on this incident, it is hard to believe this one nut would start a chain of events that nearly led to a mishap.

I immediately began a FOD search. Not finding the nut, I realized that aircraft panels would have to be removed to continue the search. I went inside and had maintenance cut a MAF to remove the No. 1 and No. 2 engine intakes. They were removed and placed on the base of the open engine-cowling doors. Soon, the nut was found in the "crotch" panel of the No. 2 engine.

With the FOD excitement over, I worked the rest of the morning and into the afternoon on the blade-fold system. Once I was done, it was time to see if the system worked. Everything went well when power was applied. Next, I had to see if the blades would spread automatically. I asked a duty-section maintainer to act as a safety observer. He promptly came out to help me spread the blades. As we walked to the flight deck, he noticed the No. 1 engine intake sitting upright on the engine-cowling door, where it might get in the way during the spread. We removed the intake and placed it on the flight deck.

I got in the left cockpit seat and reached over to move the blade-fold switch to the spread position. Everything seemed to work as advertised. Suddenly, I heard a loud crunch, followed by a loud thud. I immediately knew we had a problem



and stopped the spread. One glance to the right answered my question. I could see the No. 2 engine intake on the flight deck. It hadn't been there just a couple seconds ago, so this sight definitely was not good.

I got out of the cockpit, walked over to the starboard side of the aircraft, and, as I rounded the corner, realized what had caused the loud crunching sound. The No. 2 engine-access cowl-ing had snapped near the hinges, dropping the

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intake to the ground. How could this have happened?

I quickly replayed the chain of events. After finding the nut, both engine intakes had been left upright on the engine cowlings. When we came out to the aircraft, we approached and remained on the port side. We viewed the No. 1 intake as a hazard and removed it, but we didn't check the other side of the aircraft. The No. 2 intake also was left standing upright on the

engine door. As the blue rotor blade started to spread, it hit the top of the intake cowling, which soon was overloaded.

That "door" is rated to hold up to 400 pounds, but it snapped and made the loud, crunching sound. With nothing to hold it off the deck, it fell to the ground with a loud thud. The bottom of the blue rotor blade revealed a deep but O-level-repairable gouge.

The SH-60 plane-captain manual requires a minimum of four people to spread rotor blades: a safety observer, two wing-walkers, and a tech-

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nician to operate the system. I had only two people. As the detachment LPO, I should have known better but allowed myself to be lulled into a false sense of security. I had spread blades a hundred times without any problems. What could go wrong on a bright sunny day in port?

My failure to follow established procedures turned a routine, simple task into something much more complicated. I also turned a fully mission-capable SH-60B into a non-mission-capable helo, requiring a functional check flight. We have established procedures to account for the unpredictable, and, had I followed these procedures, we would have recognized the problem and prevented this incident. ✈️

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